Notice of Allowability	Application No.	Applicant(s)	
	09/807,589	PRETI ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the request for continued examination filed 3/27/2007*.

2. ☒ The allowed claim(s) is/are *1,4-15,19 and 27-31*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20070807* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Hassan A. Shakir on August 7, 2007.

The application has been amended as follows:

IN THE CLAIMS:

Claim 1. (Currently Amended) An improved reaction chamber for an epitaxial reactor comprising a belljar having a shoulder and made of insulating and transparent material, a susceptor provided with disk-shaped cavities for receiving wafers of materials to be treated and having an insulating and chemically resistant flat plate arranged above it, comprising: a diffuser formed by a cap supplied by a central dome-piece connected to a symmetrical annular distribution chamber having a plurality of pipes of the same length which connect said annular chamber of the cap to a dome zone of the belljar situated just underneath a neck connecting an upper flange to the dome, said plurality of pipes ensuring a uniform distribution of flow at a lower speed; a cylindrical zone of the belljar extended above the flat plate supported above the susceptor so as to eliminate any interference between the flat plate and shoulder; a minimum internal diameter of the belljar ~~so as to keep the belljar as far away as possible from the susceptor~~ for sufficiently spacing the belljar from the susceptor; and on the corners of the susceptor, in its upper zone, projecting baffles inserted into recesses formed in the body of the ~~said~~ susceptor,

said baffles extending longitudinally at half the height of the susceptor; wherein the cap of the diffuser is fixed to an annular flange which is in turn fixed to an upper thickened flange of the belljar by means of a pair of two half counter-flanges gripping the annular flange against the upper thickened flange of the belljar; and wherein the fixing of the cap of the diffuser to the annular flange is performed by means of a plurality of spring-loaded tie-rods which push in an elastic manner the cap against the annular flange.

Claim 2. (Cancelled)

Claim 3. (Cancelled)

Claim 4. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 1 wherein the cap is closed at the top by a flange terminating in a dome-piece communicating with a sleeve for connection to an external source of gas to be used in the same reaction chamber, which dome-piece is provided with a bottom defining at least one circular slit for ensuring a rigorously uniform distribution of gas to an annular chamber for supplying the plurality of pipes emerging from the distributor inside the belljar.

Claim 5. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 4 wherein in addition to the slit in the bottom, a further annular slit helps ensure the uniform distribution of gas to the annular chamber supplying the outlet pipes.

Claim 6. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 4 wherein the cap of the distributor comprises an internal chamber for the flow of a cooling fluid.

Claim 7. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 4, characterized in that the outlet pipes are made of a material which is chemically inert with respect to the gas used in the belljar.

Claim 8. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 7 wherein the outlet pipes are made of glass.

Claim 9. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 7 wherein the outlet pipes are made of ceramic material.

Claim 10. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 7 wherein the outlet pipes are made of quartz.

Claim 11. (Currently Amended) The improved reaction chamber for an epitaxial reactor of Claim 1 wherein the baffles fixed to the susceptor are made of material chemically inert with respect to the gases used in the ~~said~~ chamber.

Claim 12. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 11 wherein the baffles fixed to the susceptor are made of glass.

Claim 13. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 11 wherein the baffles fixed to the susceptor are made of ceramic material.

Claim 14. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 11 wherein the baffles fixed to the susceptor are made of quartz.

Claim 15. (Previously Presented) The improved reaction chamber for an epitaxial reactor of Claim 11 wherein the baffles fixed to the susceptor are made of graphite lined with silicon carbide.

Claims 16-18. (Cancelled)

Claim 19. (Currently Amended) A reaction chamber for an epitaxial reactor comprising: a belljar; a susceptor inside the belljar; and a diffuser disposed on the top of the belljar; the belljar being made of insulating and transparent material and having an upper flange, the flange joined

to a neck, a shoulder joined to a flat zone and a cylindrical zone joined to the shoulder; the susceptor comprising a body shaped like a truncated pyramid, the susceptor being provided with disk-shaped cavities for receiving wafers of material to be treated, and supporting an insulating and chemically resistant flat plate above it, the flat plate facing the flat zone of the belljar; the diffuser being formed by a cap supplied by a central dome-piece connected to a symmetrical annular distribution chamber having a plurality of pipes of the same length which connect the annular chamber of the cap to a dome zone of the belljar situated just underneath its neck, the plurality of pipes feeding gases into the ~~into the~~ belljar and ensuring a uniform distribution of gas flow at a lower speed; wherein the ~~internal diameter of the cylindrical zone of the belljar is sized to keep the belljar from the susceptor~~ belljar is spaced from the susceptor; and wherein the flat plate is so arranged as to deflect gases coming from the plurality of pipes; wherein the cap of the diffuser is fixed to an annular flange which is in turn fixed to an upper thickened flange of the belljar by means of a pair of two half counter-flanges gripping the annular flange against the upper thickened flange of the belljar; wherein the fixing of the cap of the diffuser to the annular flange is performed by means of a plurality of spring-loaded tie-rods which push in an elastic manner the cap against the annular flange.

Claims 20-26. (Cancelled)

Claim 27. (Currently Amended) A reaction chamber for an epitaxial reactor comprising: a belljar; a susceptor inside the belljar; and a diffuser on the top of the belljar; the belljar being made of insulating and transparent material and having an upper flange, the flange joined to a neck, the neck joined to a flat zone, the flat zone joined to a shoulder, and the shoulder joined to a cylindrical zone; the susceptor comprising a body shaped like a truncated pyramid, the

susceptor being provided with disk-shaped cavities for receiving wafers of material to be treated, and supporting an insulating an chemically resistant flat plate above it, the flat plate facing the flat zone of the belljar; the diffuser being formed by a cap supplied by a central dome-piece connected to a symmetrical annular distribution chamber having a plurality of pipes of the same length which connect the annular chamber of the cap to a dome of the belljar situated just underneath its neck, the plurality of pipes feeding gases into the belljar and ensuring a uniform distribution of gas flow at a lower speed; wherein the ~~internal diameter of the cylindrical zone of the belljar is sized to keep the belljar at a distance from the susceptor~~ belljar is spaced from the susceptor; and wherein the flat plate is arranged to deflect gases coming from a vertical direction from the plurality of pipes and to guide the gases into a horizontal direction between the flat plate and the flat zone until the end of the flat plate where the gases flow vertically downward to the susceptor for improved deposition; wherein a plurality of baffles are fixed to the susceptor and the baffles are made of material chemically inert with respect to the gases used in the ~~said~~ chamber; wherein the cap of the diffuser is fixed to an annular flange which is in turn fixed to an upper thickened flange of the belljar by means of a pair of two half counter-flanges gripping the annular flange against the upper thickened flange of the belljar; and wherein the fixing of the cap of the diffuser to the annular flange is performed by means of a plurality of spring-loaded tie-rods which push in an elastic manner the cap against the annular flange.

Claim 28. (Previously presented) The improved reaction chamber for an epitaxial reactor of Claim 27 wherein the baffles fixed to the susceptor are made of glass.

Claim 29. (Previously presented) The improved reaction chamber for an epitaxial reactor of Claim 27 wherein the baffles fixed to the susceptor are made of ceramic material.

Claim 30. (Previously presented) The improved reaction chamber for an epitaxial reactor of Claim 27 wherein the baffles fixed to the susceptor are made of quartz.

Claim 31. (Previously presented) The improved reaction chamber for an epitaxial reactor of Claim 27 wherein the baffles fixed to the susceptor are made of graphite lined with silicon carbide.

Claim 32. (Cancelled)

Allowable Subject Matter

2. Claims 1, 4-15, 19, and 27-31 are allowed.

3. The following is a statement of reasons for the indication of allowable subject matter: The Examiner's initial indication of allowable subject matter in the June 14, 2005 non-final action remains the rationale for the present allowance. At present, Applicant has complied with this indication of allowable subject matter as evidenced from the amendment to independent claim 27.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (571) 273-8300. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.

8/7/7